

OCCUPATIONAL SAFETY
AND HEALTH STANDARDS BOARD
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NOTICE OF PROPOSED MODIFICATIONS TO
CALIFORNIA CODE OF REGULATIONS

TITLE 8: Division 1, Chapter 4, Subchapter 7,
Article 154, Sections 6070, 6074, 6075, 6080, 6085, 6087, 6089, 6090, 6100, 6115 and 6120, and
Article 154, Appendices A and B of the General Industry Safety Orders

Pressurized Worksite Operations

Pursuant to Government Code Section 11346.8(c), the Occupational Safety and Health Standards Board (Standards Board) gives notice of the opportunity to submit written comments on the above-named regulations in which further modifications are being considered as a result of public comments and/or Board staff evaluation.

On July 16, 2009, the Occupational Safety and Health Standards Board held a Public Hearing to consider revisions to Title 8, Division 1, General Industry Safety Orders, Article 154, Sections 6070, 6074, 6075, 6080, 6085, 6087, 6089, 6090, 6100, 6115 and 6120, and Article 154, Appendices A and B. The Standards Board received oral and written comments on the proposed modifications. These regulations have been modified as a result of these comments.

A copy of the text of the regulations with the modifications clearly indicated is attached for your information. In addition, a summary of all oral and written comments regarding the original proposal and responses is included.

Any written comments on these modifications must be received by 5:00 p.m. on December 30, 2009 at the Occupational Safety and Health Standards Board's Office, 2520 Venture Oaks Way, Suite 350, Sacramento, California 95833. This proposal will be scheduled for adoption at a future Business Meeting of the Occupational Safety and Health Standards Board.

The Occupational Safety and Health Standards Board's rulemaking file on the proposed action is open to public inspection Monday through Friday, from 8:00 a.m. to 4:30 p.m. at the Standards Board's Office, 2520 Venture Oaks Way, Suite 350, Sacramento, California.

Inquires concerning the proposed modifications may be directed to the Executive Officer, Marley Hart at (916) 274-5721.

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

Marley Hart, Executive Officer

Date: December 10, 2009

Modifications to the Original Proposal

(Regulatory language to be deleted is shown in bold and double strike-out and new language is shown in bold and double underscore.)

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Amend Sections 6070, 6074, 6075, 6080, 6085, 6087, 6089, 6090, 6100, 6115 and 6120, and Article 154, Appendices A and B to read:

§6070. Application.

The Orders in this Article shall apply whenever persons are employed in a compressed air environment, exclusive of diving work.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

§6074. Definitions.

The following definitions shall apply in the application of these Orders.

* * *

Compressed Air Environment (Hyperbaric Condition): A work site where the ambient pressure is greater than the atmospheric pressure at the entrance to the work site.

* * *

~~**Normal Condition:** One during which exposure to compressed air is limited to a single continuous working period followed by a single decompression in any given 24-hour period; the total time of exposure to compressed air during the single continuous is not interrupted by exposure to normal atmospheric pressure, and a second exposure to compressed air does not occur until at least 12 consecutive hours of exposure to normal atmospheric pressure have elapsed since the worker has been under pressure.~~

* * *

Special Decompression Chamber: A chamber to provide greater comfort for employees when the total decompression time exceeds 75 minutes.

Supervising Physician: A physician licensed in the State of California who is familiar with and experienced in the physical requirements for the medical aspects of work in compressed air environments.

* * *

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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§6075. General Provisions.

* * *

(b) The employer shall ensure that a competent person, who is familiar with these and other applicable safety orders, is present at the work site at all times when employees are required to work in a compressed air environment.

(c) Employees who are exposed to or control the exposure of others to hyperbaric conditions shall be trained in hyperbaric related physics and physiology, recognition of pressure related injuries, and how to avoid discomfort during compression.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

§6080. Compression Rate.

(a) During the compression of employees, the pressure shall not be increased to more than 3 psig within the first minute. The pressure shall be held at 3 psig and again at 7 psig sufficiently long to determine if any individuals are experiencing discomfort. After the first minute the pressure is to be raised uniformly and at a rate not to exceed 10 psi per minute. If any employees complain of discomfort, the pressure will be held to determine if the symptoms are relieved. If after 5 minutes the discomfort does not disappear, the lock attendant shall gradually reduce the pressure, until the employee signals that the discomfort has ceased. If the employee does not indicate that the discomfort has disappeared, the lock attendant shall reduce the pressure to atmospheric and the employee shall be released from the lock.

(b) No employee shall be subjected to pressure exceeding 50 pounds per square inch, ~~except in an emergency when approved by the Division for a worksite.~~

~~NOTE: Section 6085(b)(2)(A) and Exception No. 2 to Section 6085 provide that decompression tables and procedures for pressure exceeding 50 psi may be used if recommended by the supervising physician and approved by the Division for use at the worksite.~~

~~EXCEPTION: The requirements of subsections (a) and (b) do not apply in an emergency.~~

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

§6085. Decompression for Normal Conditions of Employees.

(a) Decompression tables. Decompression for normal conditions shall be in accordance with the following specified ~~Decompression Tables~~ contained in Volume 2, Chapter 9 of the U.S. Navy Diving Manual, Revision 6, April 15, 2008, which is hereby incorporated by reference. ~~(See Decompression Table No. 1 and No. 2 in Appendix A.)~~

~~NOTE: The U.S. Navy Diving Manual, Revision 6, April 15, 2008, is available to the public on the internet.~~

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(1) No-Decompression Limits and Repetitive Group Designation Table for No-Decompression Air Dives - Table 9-7. This table shall be used to determine the no-decompression limits and the repetitive group designators for work in a compressed air environment that does not require decompression.

(2) Air Decompression Table - Table 9-9. This table shall be used to determine the decompression schedules and repetitive group designators for work in a compressed air environment that requires decompression.

(3) Residual Nitrogen Timetable for Repetitive Air Dives - Table 9-8. This table shall be used to determine the Residual Nitrogen Time when an employee who has some residual nitrogen in his/her system begins work in a compressed air environment.

(4) Sea Level Equivalent Depth - Table 9-4. This table shall be used to correct the sea level decompression tables for use at altitudes of 1,000 feet above sea level and higher.

(5) Repetitive Groups Associated with Initial Ascent to Altitude - Table 9-5. This table shall be used to adjust decompression schedules when an employee who is not fully equilibrated at altitude begins work in a compressed air environment.

(6) Required Surface Interval Before Ascent to Altitude After Diving - Table 9-6. This table shall be used to determine when it is safe for an employee to fly or ascend to higher altitude after performing work in a compressed air environment.

(b) Use of decompression tables. The following provisions apply to the use of the U. S. Navy decompression tables referenced in subsection (a):

(1) General. The decompression tables shall be used in accordance with the applicable rules, instructions, and examples provided in Chapter 9 of the referenced U.S. Navy Diving Manual. The terms, definitions and units of measure used in the referenced Diving Manual that normally refer to diving work, such as standard feet of water, diver, descent time, bottom time, dive, depth, and surface, shall apply to work in compressed air environments in a manner that is consistent with applicable scientific principles. When converting "Feet of Sea Water" (FSW) to pounds per square inch (gauge) (psi(g)), a conversion factor of 0.4454 psi(g) per 1.0 FSW shall be used.

(2) Air Decompression Table - Table 9-9.

(A) The table shall not be used for pressures exceeding 50 psi(g).

(B) The table shall not be used for pressures greater than 190 FSW.

(C) A gas mix of air and oxygen (AIR/O₂) shall be used for decompression when the table indicates a gas mix of air (AIR) is permitted but AIR/O₂ is recommended.

(D) Surface decompression (decanting) is prohibited.

(E) The table shall not be used for a bottom time and pressure that is designated an Exceptional Exposure in the table.

(F) The compression rate shall be in accordance with Section 6080(a).

EXCEPTION No. 1: The provisions of subsections (a) and (b)(2) do not apply in an emergency provided that employees are decompressed in accordance with decompression tables and procedures recommended by the supervising physician.

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~~**EXCEPTION No. 2:** The provisions of subsections (a) and (b)(2) do not apply provided that the employer complies with decompression tables and procedures that have been recommended by the supervising physician in writing and approved by the Division for use at the worksite. The Division may require the employer to provide evidence demonstrating that the alternative tables and procedures are as effective as the U.S. Navy decompression tables referenced in this subsection.~~

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

§6087. Decompression After Repetitive Exposures.

In the event it is necessary for an employee to be in compressed air more than once in a 24-hour period, the appointed physician shall be responsible for the establishment of methods and procedures of decompression applicable to repetitive exposures. (See Appendix B.)

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

§6089. Decompression by Decanting.

If decanting is necessary, the appointed physician shall establish procedures before anyone is permitted to be decompressed by decanting methods. The period of time that the employees spend at atmospheric pressure between the Recompression following the shift and recompression shall not exceed 5 minutes.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

§6090. Air Locks.

(a) Except in emergency, no employees employed in compressed air shall be permitted to pass from the working chamber to atmospheric pressure until after decompression, in accordance with the procedures in either Appendix A, Appendix B, or Section 6089 ~~6085~~.

* * *

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

* * *

§6100. Temperature, Illumination, Sanitation and Ventilation.

* * *

(e) Ventilation in the locks and chambers, with the exception of the medical chamber, shall be such that the air quality meets the requirement of Section 5144(e)(i).

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* * *

(i) When an oxygen breathing gas system is used during decompression, the employer shall take one, or both, of the following steps to ensure that the concentration of oxygen inside the chamber or lock does not exceed twenty five percent (25%) by volume:

(1) The oxygen breathing gas system shall capture the oxygen that is not consumed by the user and directly exhaust it to a well ventilated area outside of the lock or chamber;

(2) An oxygen meter shall be used to continuously monitor the oxygen concentration inside the chamber or lock.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

* * *

§6115. Fire Prevention.

* * *

(i) Oxygen Safety.

(1) Equipment used with oxygen or mixtures containing over forty percent (40%) by volume oxygen shall be designed and maintained for oxygen service.

(2) Components exposed to oxygen or mixtures containing over forty percent (40%) by volume oxygen shall be free of oil, grease, and combustible materials.

(3) Oxygen systems over 125 psig shall have slow-opening shut-off valves.

(4) Oxygen cylinders, piping, valves, gauges, regulators and other accessories shall be protected against physical damage.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

§6120. Medical Control.

~~(a)(1) There shall be retained 1 or more physicians licensed in the State of California familiar with and experienced in the physical requirements for the medical aspects of compressed air work. The employer shall retain a supervising physician who shall be available at all times while work is in progress in order to provide medical supervision of employees employed in compressed air work. The physician shall meet the physical qualifications of a compressed air worker and be willing to enter a pressurized environment.~~

(2) No employee shall be permitted to enter a compressed air environment until qualified by a physician in accordance with Section 6053.

~~(3) An oxygen tolerance test shall be passed by all persons engaged in compressed air work.~~

(4) (3) In the event an employee is absent from work for 10 or more consecutive days the employee shall be determined to be medically fit to resume compressed air work by the physician.

~~(5) (4) Medical records shall be kept as required by applicable parts of Section 6058.~~

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(b) Except when the air pressure in the working chamber is below 14 psig a medical chamber shall be established and maintained in immediate working order. The medical chamber shall:

* * *

(13) Be in constant charge of an attendant under the direct control of the ~~retained~~ supervising physician. The attendant shall be trained in the use of the chamber and suitably instructed regarding steps to be taken in the treatment of employees exhibiting symptoms compatible with a diagnosis of decompression sickness.

* * *

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Delete Appendix A in its entirety:

Appendix A

Decompression Tables

1. **EXPLANATION.** The decompression tables are computed for working chamber pressures from 0 to 14 pounds, and from 14 to 50 pounds per square inch gauge inclusive by 2-pound increments and for exposure times for each pressure extending from 1/2 to over 8 hours inclusive. Decompressions will be conducted by 2 or more stages with a maximum of 4 stages, the latter for a working chamber pressure of 40 pounds per square inch gauge or over.

Stage 1 consists of a reduction in ambient pressure ranging from 10 to a maximum of 16 pounds per square inch, but in no instance will the pressure be reduced below 4 pounds at the end of stage 1. This reduction in pressure in stage I will always take place at a rate not greater than 5 pounds per minute.

Further reduction in pressure will take place during stage 2 and subsequent stages as required at a slower rate, but in no event at a rate greater than 1 pound per minute.

Decompression Table No. 1 indicates in the body of the table the total decompression time in minutes for various combinations of working chamber pressure and exposure time.

Decompression Table No. 2 indicates for the same various combinations of working chamber pressure and exposure time the following:

- a. The number of stages required;
- b. The reduction in pressure and the terminal pressure for each required stage;
- c. The time in minutes through which the reduction in pressure is accomplished for each required stage;

d. The pressure reduction rate in minutes per pound for each required stage; **IMPORTANT NOTE: THE PRESSURE REDUCTION IN EACH STAGE IS ACCOMPLISHED AT A UNIFORM RATE. DO NOT INTERPOLATE BETWEEN VALUES SHOWN ON THE TABLES. USE THE NEXT HIGHER VALUE OF WORKING CHAMBER PRESSURE OR EXPOSURE TIME SHOULD THE ACTUAL WORKING CHAMBER PRESSURE OR THE ACTUAL EXPOSURE TIME, RESPECTIVELY, FALL BETWEEN THOSE FOR WHICH CALCULATED VALUES ARE SHOWN IN THE BODY OF THE TABLES.**

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Examples:

Example No. 1

4 hours working period at 20 pounds gauge
Decompression Table No. 1
20 pounds for 4 hours,
Total Decompression Time 43 minutes
Decompression Table No. 2
Stage 1
Reduce pressure from 20 pounds to 4 pounds at the
uniform rate of 5 pounds per minute.
Elapsed time Stage 1: 16/5 3 minutes
Stage 2 (final stage)
Reduce pressure at a uniform rate from 4
pounds to 0 pound gauge over a period of 40 minutes.
Rate -- 0.10 pounds per minute or 10.00 minutes per
pound
Stage 2 (final) elapsed time..... 40 minutes
Total Time 43 minutes

Example No. 2

5-hour working period at 24 pounds gauge
Decompression Table No. 1
24 pounds for 5 hours
Total Decompression Time 117 minutes
Decompression Table No. 2
Stage 1
Reduce pressure from 24 pounds to 8 pounds at
the uniform rate of 5 pounds per minute
Elapsed time Stage 1: 16/5 3 minutes
Stage 2
Reduce pressure at a uniform rate from 8 pounds to
4 pounds over a period of 4 minutes.
Rate, 1 pound per minute
Elapsed time, Stage 2 4 minutes
Transfer persons to Special Decompression Chamber
maintaining the 4-pound pressure during the transfer
operation.

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Stage 3 (final stage)

In the Special Decompression Chamber, reduce the pressure at a uniform rate from 4 pounds to 0 pound gauge over a period of 110 minutes.

Rate, 0.037 pounds per minute or 27.5 minutes per pound

Stage 3 (final) elapse time..... 110 minutes

Total Time 117 minutes

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**DECOMPRESSION TABLE NO. 1
Total Decompression Time – Minutes**

Work Pressure psig	Working Period (Hours)										
	$\frac{1}{2}$	1	1 $\frac{1}{2}$	2	3	4	5	6	7	8	Over 8
9-12	3	3	3	3	3	3	3	3	3	3	3
14	6	6	6	6	6	6	6	6	16	16	32
16	7	7	7	7	7	7	17	33	48	48	63
18	7	7	7	8	11	17	48	63	63	73	87
20	7	7	8	15	15	43	63	73	83	103	113
22	9	9	16	24	38	68	93	103	113	128	133
24	11	12	23	27	52	92	117	122	127	137	151
26	13	14	29	34	69	104	126	141	142	142	163
28	15	23	31	41	98	127	143	153	153	165	183
30	17	28	38	62	105	143	165	168	178	188	204
32	19	35	43	85	126	163	178	193	203	213	226
34	21	39	58	98	151	178	195	218	223	233	248
36	24	44	63	113	170	198	223	233	243	253	273
38	28	49	73	128	178	203	223	238	253	263	278
40	31	49	84	143	183	213	233	248	258	278	288
42	37	56	102	144	189	215	245	260	263	268	293
44	43	64	118	154	199	234	254	264	269	269	293
46	44	74	139	171	214	244	269	274	299	299	318
48	51	89	144	189	229	269	299	309	319	319	---
50	58	94	164	209	249	279	309	329	---	---	---

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Decompression Table No. 2

chamber pressure psig	Decompression data					
	Working Working period	Stage no.	reduction psig		Pressure Time in stage	Pressure Total time decompress
	Hours		From	To	Minutes	
14	1/2	1	14	4	2	6
		2	4	0	4	
	1	1	14	4	2	6
		2	4	0	4	
	1 1/2	1	14	4	2	6
		2	4	0	4	
	2	1	14	4	2	6
		2	4	0	4	
	3	1	14	4	2	6
		2	4	0	4	
	4	1	14	0	2	6
		2	4	0	4	
	5	1	4	4	2	6
		2	4	0	4	
	6	1	14	4	2	6
		2	4	0	4	
	7	1	14	4	2	16
		2	4	0	14	
	8	1	14	4	2	16
		2	4	0	14	
	Over 8	1	14	4	2	32
		2	4	0	30	
16	1/2	1	16	4	3	7
		2	4	0	4	
	1	1	16	4	3	7
		2	4	0	4	

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1 1/2	1	16	4	3	0.20	7
	2	4	0	4	1.00	
2	1	16	4	3	0.20	7
	2	4	0	4	1.00	
3	1	16	4	3	0.20	7
	2	4	0	4	1.00	
4	1	16	0	3	0.20	7
	2	4	0	4	1.00	

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data						
	Working Working period Hours	Stage no.	reduction psig From To		Pressure Time in stage Minutes	reduction rate Min/Pound	Pressure Total time decompress Minutes
18	5	1	16	4	3	0.20	17
		2	4	0	4	3.50	
	6	1	16	4	3	0.20	33
		2	4	0	30	7.50	
	7	1	16	4	3	0.20	48
		2	4	0	45	11.25	
	8	1	16	4	3	0.20	48
		2	4	0	45	11.25	
	Over 8	1	16	4	3	0.20	63
		2	4	0	60	15.00	
	1/2	1	18	4	3	0.20	7
		2	4	0	4	1.00	
	1	1	18	4	3	0.20	7
		2	4	0	4	1.00	
	1 1/2	1	18	4	3	0.20	

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	2	4	0	4	1.00	7
2	1	18	4	3	0.20	
	2	4	0	5	1.25	8
3	1	18	4	3	0.20	
	2	4	0	8	2.00	11
4	1	18	0	3	0.20	
	2	4	0	14	3.50	17
5	1	18	4	3	0.20	
	2	4	0	45	11.25	48
6	1	18	4	3	0.20	
	2	4	0	60	15.00	63
7	1	18	4	3	0.20	
	2	4	0	60	15.00	63

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data						
	Working Working period Hours	Stage no.	reduction psig From To		Pressure Time in stage Minutes	reduction rate Min/Pound	Pressure Total time decompress Minutes
20	8	1	18	4	3	0.20	73
		2	4	0	70	17.50	
	Over 8	1	18	4	3	0.20	87
		2	4	0	84	21.00	
	1/2	1	20	4	3	0.20	7
		2	4	0	4	1.00	
	1	1	20	4	3	0.20	7
		2	4	0	4	1.00	

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1 1/2	1	20	4	3	0.20	8
	2	4	0	5	1.25	
2	1	20	4	3	0.20	15
	2	4	0	12	3.00	
3	1	20	4	3	0.20	15
	2	4	0	12	3.00	
4	1	20	4	3	0.20	43
	2	4	0	40	10.00	
5	1	20	4	3	0.20	63
	2	4	0	60	15.00	
6	1	20	4	3	0.20	73
	2	4	0	70	17.50	
7	1	20	4	3	0.20	83
	2	4	0	80	20.00	
8	1	20	4	3	0.20	103
	2	4	0	100	25.00	
Over 8	1	20	4	3	0.20	113
	2	4	0	110	27.50	

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working Working period Hours	Stage no.	reduction psig From To	Pressure Time in stage Minutes	reduction rate Min/Pound	Pressure Total time decompress Minutes
22	1/2	1	22 6	3	0.20	9
		2	6 0	6	1.00	

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1	1	22	6	3	0.20	9
	2	6	0	6	1.00	
1 1/2	1	22	6	3	0.20	16
	2	6	0	13	2.20	
2	1	22	6	3	0.20	24
	2	6	0	21	3.50	
3	1	22	6	3	0.20	38
	2	6	0	35	5.85	
4	1	22	6	3	0.20	68
	2	6	0	65	10.83	
5	1	22	6	3	0.20	93
	2	6	0	90	15.00	
6	1	22	6	3	0.20	103
	2	6	0	100	16.67	
7	1	22	6	3	0.20	113
	2	6	0	110	18.35	
8	1	22	6	3	0.20	128
	2	6	0	125	20.80	
Over 8	1	22	6	3	0.20	133
	2	6	0	130	21.70	
24 1/2	1	24	8	3	0.20	11
	2	8	4	4	1.00	
	3	4	0	4	1.00	
1	1	24	8	3	0.20	12
	2	8	4	4	1.00	
	3	4	0	5	1.25	

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

Decompression data

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chamber pressure psig	Working Working period Hours	Stage no.	reduction psig From To		Pressure Time in stage Minutes	reduction rate Min/Pound	Pressure Total time decompress Minutes
26	1 1/2	1	24	8	3	0.20	23
		2	8	4	4	1.00	
		3	4	0	16	4.00	
	2	1	24	8	3	0.20	27
		2	8	4	4	1.00	
		3	4	0	20	5.00	
	3	1	24	8	3	0.20	52
		2	8	4	4	1.00	
		3	4	0	45	11.25	
	4	1	24	8	3	0.20	92
		2	8	4	4	1.00	
		3	4	0	85	21.25	
	5	1	24	8	3	0.20	117
		2	8	4	4	1.00	
		3	4	0	110	27.50	
	6	1	24	8	3	0.20	122
		2	8	4	4	1.00	
		3	4	0	115	28.80	
	7	1	24	8	3	0.20	127
		2	8	4	4	1.00	
		3	4	0	120	30.00	
	8	1	24	8	3	0.20	137
		2	8	4	4	1.00	
		3	4	0	130	32.50	
	Over 8	1	24	8	3	0.20	151
		2	8	4	8	2.00	
		3	4	0	140	35.00	
	1/2	1	26	10	3	0.20	13
		2	10	4	6	1.00	
		3	4	0	4	1.00	

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Do not interpolate, use next higher value for conditions not computed.

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Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data						
	Working	Stage no.	reduction		Pressure	reduction rate Min/Pound	Pressure
	Working period		psig		Time in stage		Total time decompress
	Hours		From	To	Minutes		Minutes
	1	1	26	10	3	0.20	14
		2	10	4	6	1.00	
		3	4	0	5	1.25	
	1 1/2	1	26	10	3	0.20	29
		2	10	4	6	1.00	
		3	4	0	20	5.00	
	2	1	26	10	3	0.20	34
		2	10	4	6	1.00	
		3	4	0	25	6.25	
	3	1	26	10	3	0.20	69
		2	10	4	6	1.00	
		3	4	0	60	15.00	
	4	1	26	10	3	0.20	104
		2	10	4	6	1.00	
		3	4	0	95	23.75	
	5	1	26	10	3	0.20	126
		2	10	4	8	1.33	
		3	4	0	115	28.80	
	6	1	26	10	3	0.20	141
		2	10	4	8	1.33	
		3	4	0	130	32.50	
	7	1	26	10	3	0.20	142
		2	10	4	9	1.50	
		3	4	0	130	32.50	
	8	1	26	10	3	0.20	
		2	10	4	9	1.50	

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	3	4	0	130	32.50	142
Over 8	1	26	10	3	0.20	
	2	10	4	30	5.00	
	3	4	0	130	32.50	163

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working Working period Hours	Stage no.	reduction psig	Pressure Time in stage Minutes	reduction rate Min/Pound	Pressure Total time decompress Minutes
			From To			
28	1/2	1	28 12	3	0.20	15
		2	12 4	8	1.00	
		3	4 0	4	1.00	
	1	1	28 12	3	0.20	23
		2	12 4	8	1.00	
		3	4 0	12	3.00	
	1 1/2	1	28 12	3	0.20	31
		2	12 4	8	1.00	
		3	4 0	20	5.00	
	2	1	28 12	3	0.20	41
		2	12 4	8	1.00	
		3	4 0	30	7.50	
	3	1	28 12	3	0.20	98
		2	12 4	10	1.25	
		3	4 0	85	21.20	
	4	1	28 12	3	0.20	127
		2	12 4	14	1.75	
		3	4 0	110	27.50	

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5	1	28	12	3	0.20	
	2	12	4	20	2.50	
	3	4	0	120	30.00	143
6	1	28	12	3	0.20	
	2	12	4	20	2.50	
	3	4	0	130	32.50	153
7	1	28	12	3	0.20	
	2	12	4	20	2.50	
	3	4	0	130	32.50	153
8	1	28	12	3	0.20	
	2	12	4	32	4.00	
	3	4	0	130	32.50	165
Over 8	1	28	12	3	0.20	
	2	12	4	50	6.25	
	3	4	0	130	32.50	183

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working period	Stage no.	reduction psig		Pressure Time in stage	Pressure Total time decompress
	Hours		From	To	Minutes	Minutes
30	1/2	1	30	14	3	0.20
		2	14	4	10	1.00
		3	4	0	4	1.00
	1	1	30	14	3	0.20
		2	14	4	10	1.00
		3	4	0	15	3.75
	1 1/2	1	30	14	3	0.20
		2	14	4	10	1.00
		3	4	0	25	6.25

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2	1	30	14	3	0.20	62
	2	14	4	14	1.40	
	3	4	0	45	11.25	
3	1	30	14	3	0.20	105
	2	14	4	17	1.70	
	3	4	0	85	21.20	
4	1	30	14	3	0.20	143
	2	14	4	30	3.00	
	3	4	0	110	27.50	
5	1	30	14	3	0.20	165
	2	14	4	35	3.50	
	3	4	0	130	32.50	
6	1	30	14	3	0.20	168
	2	14	4	35	3.50	
	3	4	0	130	32.50	
7	1	30	14	3	0.20	178
	2	14	4	45	4.50	
	3	4	0	130	32.50	
8	1	30	14	3	0.20	188
	2	14	4	55	5.50	
	3	4	0	130	32.50	
Over 8	1	30	14	3	0.20	204
	2	14	4	71	7.10	
	3	4	0	130	32.50	

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working Working period Hours	Stage no.	reduction psig		Pressure Time in stage Minutes	Pressure Total time decompress Minutes
			From	To		
32	1/2	1	32	16	3	0.20

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	2	16	4	12	1.00	
	3	4	0	4	1.00	19
1	1	32	16	3	0.20	
	2	16	4	12	1.00	
	3	4	0	20	5.00	35
1 1/2	1	32	16	3	0.20	
	2	16	4	15	1.25	
	3	4	0	25	6.25	43
2	1	32	16	3	0.20	
	2	16	4	22	1.83	
	3	4	0	60	15.00	85
3	1	32	16	3	0.20	
	2	16	4	28	2.33	
	3	4	0	95	23.75	126
4	1	32	16	3	0.20	
	2	16	4	40	3.33	
	3	4	0	120	30.00	163
5	1	32	16	3	0.20	
	2	16	4	45	3.75	
	3	4	0	130	32.50	178
6	1	32	16	3	0.20	
	2	16	4	60	5.00	
	3	4	0	130	32.50	193
7	1	32	16	3	0.20	
	2	16	4	70	5.83	
	3	4	0	130	32.50	203
8	1	32	16	3	0.20	
	2	16	4	80	6.67	
	3	4	0	130	32.50	213
Over 8	1	32	16	3	0.20	
	2	16	4	93	7.75	
	3	4	0	130	32.50	226

Do not interpolate, use next higher value for conditions not computed.

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Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data						
	Working	Stage no.	reduction		Pressure	reduction rate Min/Pound	Pressure
	Working period		psig		Time in stage		Total time decompress
	Hours		From	To	Minutes		Minutes
34	1/2	1	34	18	3	0.20	21
		2	18	4	14	1.00	
		3	4	0	4	1.00	
	1	1	34	18	3	0.20	39
		2	18	4	14	1.00	
		3	4	0	22	5.50	
	1 1/2	1	34	18	3	0.20	58
		2	18	4	25	1.80	
		3	4	0	30	7.50	
	2	1	34	18	3	0.20	98
		2	18	4	35	2.50	
		3	4	0	60	15.00	
	3	1	34	18	3	0.20	151
		2	18	4	43	3.10	
		3	4	0	105	26.25	
	4	1	34	18	3	0.20	178
		2	18	4	55	3.93	
		3	4	0	120	30.00	
	5	1	34	18	3	0.20	195
		2	18	4	62	4.43	
		3	4	0	130	32.50	
	6	1	34	18	3	0.20	218
		2	18	4	85	6.07	
		3	4	0	130	32.50	
	7	1	34	18	3	0.20	223
		2	18	4	90	6.43	
		3	4	0	130	32.50	

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8	1	34	18	3	0.20	233
	2	8	4	100	7.15	
	3	4	0	130	32.50	
Over 8	1	34	18	3	0.20	248
	2	18	4	115	8.23	
	3	4	0	130	32.50	

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working Working period Hours	Stage no.	reduction psig		Pressure Time in stage Minutes	Pressure Total time decompress Minutes
			From	To	reduction rate Min/Pound	
36	1/2	1	36	20	3	0.20
		2	20	4	16	1.00
		3	4	0	5	1.25
	1	1	36	20	3	0.20
		2	20	4	16	1.00
		3	4	0	25	6.25
	1 1/2	1	36	20	3	0.20
		2	20	4	30	1.88
		3	4	0	30	7.50
	2	1	36	20	3	0.20
		2	20	4	40	2.50
		3	4	0	70	17.50
	3	1	36	20	3	0.20
		2	20	4	52	3.25
		3	4	0	115	28.75
	4	1	36	20	3	0.20
		2	20	4	65	4.06
		3	4	0	130	32.50

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5	1	36	20	3	0.20	223
	2	20	4	90	5.63	
	3	4	0	130	32.50	
6	1	36	20	3	0.20	233
	2	20	4	100	6.25	
	3	4	0	130	32.50	
7	1	36	20	3	0.20	243
	2	20	4	110	6.88	
	3	4	0	130	32.50	
8	1	36	20	3	0.20	253
	2	20	4	120	7.50	
	3	4	0	130	3.50	
Over 8	1	36	20	3	0.20	273
	2	20	4	140	8.75	
	3	4	0	130	32.50	

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working Working period Hours	Stage no.	reduction psig From To	Pressure Time in stage Minutes	reduction rate Min/Pound	Pressure Total time decompress Minutes
38	1/2	1	38 22	3	0.20	28
		2	22 6	16	1.00	
		3	6 0	9	1.50	
	1	1	38 22	3	0.20	49
		2	22 6	16	1.00	
		3	6 0	30	5.00	
	1 1/2	1	38 22	3	0.20	73
		2	22 6	20	1.25	
		3	6 0	50	8.34	

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2	1	38	22	3	0.20	
	2	22	6	30	1.88	
	3	6	0	95	15.83	128
3	1	38	22	3	0.20	
	2	22	6	35	2.19	
	3	6	0	140	23.35	178
4	1	38	22	3	0.20	
	2	22	6	50	3.12	
	3	6	0	150	25.00	203
5	1	38	22	3	0.20	
	2	22	6	55	3.44	
	3	6	0	165	27.50	223
6	1	38	22	3	0.20	
	2	22	6	70	4.38	
	3	6	0	165	27.50	238
7	1	38	22	3	0.20	
	2	22	6	85	5.32	
	3	6	0	165	27.50	253
8	1	38	22	3	0.20	
	2	22	6	95	5.93	
	3	6	0	165	27.50	263
Over 8	1	38	22	3	0.20	
	2	22	6	110	6.88	
	3	6	0	165	27.50	278

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working Working period	Stage no.	reduction psig		Pressure Time in stage	Pressure Total time decompress
	Hours		From	To	Minutes	
40	1/2	1	40	24	3	0.20
		2	24	8	16	1.00
		3	8	4	4	1.00

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	4	4	0	8	2.00	31
1	1	40	24	3	0.20	
	2	24	8	16	1.00	
	3	8	4	5	1.25	
	4	4	0	25	6.25	49
1 1/2	1	40	24	3	0.20	
	2	24	8	16	1.00	
	3	8	4	20	5.00	
	4	4	0	45	11.25	84
2	1	40	24	3	0.20	
	2	24	8	25	1.56	
	3	8	4	20	5.00	
	4	4	0	95	23.75	143
3	1	40	24	3	0.20	
	2	24	8	30	1.88	
	3	8	4	30	7.50	
	4	4	0	120	30.00	183
4	1	40	24	3	0.20	
	2	24	8	45	2.81	
	3	8	4	35	8.75	
	4	4	0	130	32.50	213
5	1	40	24	3	0.20	
	2	24	8	4	2.94	
	3	8	4	3	13.25	
	4	4	0	30	32.50	233
6	1	40	24	3	0.20	
	2	24	8	55	3.44	
	3	8	4	60	15.00	
	4	4	0	130	32.50	248

Do not interpolate, use next higher value for conditions not computed.

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Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data						
	Working	Stage no.	reduction		Pressure	reduction rate Min/Pound	Pressure
	Working period		From	To	Time in stage		Total time decompress
	Hours		From	To	Minutes		Minutes
42	7	1	40	24	3	0.20	258
		2	24	8	65	4.06	
		3	8	4	60	15.00	
		4	4	0	130	32.50	
	8	1	40	24	3	0.20	268
		2	24	8	75	4.70	
		3	8	4	60	15.00	
		4	4	0	130	32.50	
	Over 8	1	40	24	3	0.20	288
		2	24	8	95	5.93	
		3	8	4	60	15.00	
		4	4	0	130	32.50	
	1/2	1	42	26	3	0.20	37
		2	26	10	16	1.00	
		3	10	4	6	1.00	
		4	4	0	12	3.00	
	1	1	42	26	3	0.20	56
		2	26	10	16	1.00	
		3	10	4	12	2.00	
		4	4	0	25	6.25	
	1 1/2	1	42	26	3	0.20	
		2	26	10	16	1.00	
		3	10	4	23	3.83	

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	4	4	0	60	15.00	102
2	1	42	26	3	0.20	
	2	26	10	16	1.00	
	3	10	4	30	5.00	
	4	4	0	95	23.75	144
3	1	42	26	3	0.20	
	2	26	10	16	1.00	
	3	10	4	50	8.34	
	4	4	0	120	30.00	189

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working period	Stage no.	reduction psig		Pressure Time in stage	Pressure Total time decompress
	Hours		From	To	Minutes	
	4	1	42	26	3	0.20
		2	26	10	17	1.06
		3	10	4	65	10.83
		4	4	0	130	32.50
						215
	5	1	42	26	3	0.20
		2	26	10	27	1.69
		3	10	4	85	14.18
		4	4	0	130	32.50
						245
	6	1	42	26	3	0.20
		2	28	10	27	1.69
		3	10	4	100	16.67
		4	4	0	130	32.50
						260
	7	1	42	26	3	0.20
		2	26	10	30	1.88
		3	10	4	100	16.67
		4	4	0	130	32.50
						263

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44	8	1	42	26	3	0.20	268
		2	6	10	35	2.19	
		3	10	4	100	16.67	
		4	4	0	130	32.50	
	Over 8	1	42	26	3	0.20	293
		2	26	10	60	3.75	
		3	10	4	100	16.67	
		4	4	0	130	32.50	
	1/2	1	44	28	3	0.20	43
		2	28	12	16	1.00	
		3	12	4	8	1.00	
		4	4	0	16	4.00	
	1	1	44	28	3	0.20	64
		2	28	12	16	1.00	
		3	12	4	20	2.50	
		4	4	0	25	6.25	

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data						Pressure Total time decompress Minutes
	Working Working period Hours	Stage no.	reduction psig		Pressure Time in stage Minutes	reduction rate Min/Pound	
			From	To			
	1 1/2	1	44	28	3	0.20	118
		2	28	12	16	1.00	
		3	12	4	27	3.38	
		4	4	0	72	18.00	
	2	1	44	28	3	0.20	154
		2	28	12	16	1.00	
		3	12	4	40	5.00	
		4	4	0	95	23.75	
	3	1	44	28	3	0.20	

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	2	28	12	16	1.00	
	3	12	4	60	7.50	
	4	4	0	120	30.00	199
4	1	44	28	3	0.20	
	2	28	12	16	1.00	
	3	12	4	85	10.62	
	4	4	0	130	32.50	234
5	1	44	28	3	0.20	
	2	28	12	16	1.00	
	3	12	4	105	13.13	
	4	4	0	130	32.50	254
6	1	44	28	3	0.20	
	2	28	12	16	1.00	
	3	12	4	115	14.38	
	4	4	0	130	32.50	264
7	1	44	28	3	0.20	
	2	28	12	16	1.00	
	3	12	4	120	15.00	
	4	4	0	130	32.50	269
8	1	44	28	3	0.20	
	2	28	12	16	1.00	
	3	12	4	120	15.00	
	4	4	0	130	32.50	269
Over 8	1	44	28	3	0.20	
	2	28	12	40	2.50	
	3	12	4	120	15.00	
	4	4	0	130	32.50	293

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

Decompression data						
chamber pressure psig	Working Working period Hours	Stage no.	reduction psig From To	Pressure Time in stage Minutes	reduction rate Min/Pound	Pressure Total time decompress Minutes

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46	1/2	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	10	1.00	
		4	4	0	15	3.75	44
	1	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	25	2.50	
		4	4	0	30	7.50	74
	1 1/2	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	35	3.50	
		4	4	0	85	21.20	139
	2	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	47	4.70	
		4	4	0	105	26.25	171
	3	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	65	6.50	
		4	4	0	130	32.50	214
	4	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	95	9.50	
		4	4	0	130	32.50	244
	5	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	120	12.00	
		4	4	0	130	32.50	269
	6	1	46	30	3	0.20	
		2	30	14	16	1.00	
		3	14	4	125	12.50	
		4	4	0	130	32.50	274

Do not interpolate, use next higher value for conditions not computed.

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Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working Working period	Stage no.	reduction psig		Pressure Time in stage	Pressure Total time decompress
	Hours		From	To	Minutes	
48	7	1	46	30	3	0.20
		2	30	14	16	1.00
		3	14	4	140	14.00
		4	4	0	130	32.50
	8	1	46	30	3	0.20
		2	30	14	16	1.00
		3	14	4	150	15.00
		4	4	0	130	32.50
	Over 8	1	46	30	3	0.20
		2	30	14	25	1.56
		3	14	4	160	16.00
		4	4	0	130	32.50
	1/2	1	48	32	3	0.20
		2	32	16	16	1.00
		3	16	4	12	1.00
		4	4	0	20	5.00
	1	1	48	32	3	0.20
		2	32	16	16	1.00
		3	16	4	35	2.92
		4	4	0	35	8.75
	1 1/2	1	48	32	3	0.20
		2	32	16	16	1.00
		3	16	4	45	3.75
		4	4	0	80	20.00
	2	1	48	32	3	0.20
		2	32	16	16	1.00
		3	16	4	60	5.00
		4	4	0	110	27.50
	3	1	48	32	3	0.20
		2	32	16	6	1.00

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3	16	4	90	7.50	
4	4	0	120	30.00	229

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working period	Stage no.	reduction psig		Pressure Time in stage	Pressure Total time decompress
	Hours		From	To	Minutes	
	4	1	48	32	3	269
		2	32	16	16	
		3	16	4	120	
		4	4	0	130	
	5	1	48	32	3	299
		2	32	16	16	
		3	16	4	140	
		4	4	0	130	
	6	1	48	32	3	309
		2	32	16	16	
		3	16	4	160	
		4	4	0	130	
	7	1	48	32	3	
		2	32	16	16	
		3	16	4	170	

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		4	4	0	130	32.50	319
	8	1	48	32	3	0.20	
		2	32	16	16	1.00	
		3	16	4	170	14.17	
		4	4	0	130	32.50	319
50	1/2	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	14	1.00	
		4	4	0	25	6.25	58
	1	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	40	2.86	
		4	4	0	35	8.75	94
	1 1/2	1	50	34	3	0.20	
		2	34	18	16	1.00	
		3	18	4	55	3.93	
		4	4	0	90	22.50	164

Do not interpolate, use next higher value for conditions not computed.

Decompression Table No. 2 (Continued)

chamber pressure psig	Decompression data					
	Working Working period Hours	Stage no.	reduction psig		Pressure Time in stage Minutes	Pressure Total time decompress Minutes
			From	To		
	2	1	50	34	3	0.20
		2	34	18	16	1.00
		3	18	4	70	5.00
		4	4	0	120	30.00
	3	1	50	34	3	0.20
		2	34	18	16	1.00
		3	18	4	100	7.15
		4	4	0	130	32.50

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4	1	50	34	3	0.20	
	2	34	18	16	1.00	
	3	18	4	130	8.58	
	4	4	0	130	32.50	279
5	1	50	34	3	0.20	
	2	34	18	16	1.00	
	3	18	4	160	11.42	
	4	4	0	130	32.50	309
6	1	50	34	3	0.20	
	2	34	18	16	1.00	
	3	18	4	180	12.85	
	4	4	0	130	32.50	329

Do not interpolate, use next higher value for conditions not computed.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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Delete Appendix B in its entirety:

Appendix B

The information contained in the following pages is adapted from the U.S. Navy Diving Tables and is to be used when an employee will enter a compressed air environment more than once within a 12-hour period.

The Division may accept alternate methods of decompression for repetitive exposures provided the licensed physician submits his proposed procedures to the Division for its review and approval.

The Department of the Navy is in no way liable for the use or misuse of Tables 3, 4, and 5.

TABLE 3

Pressure (psig)	Repetitive Groups															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Z
4	60	120	210	300												
7	35	70	110	160	225	350										
9	25	50	75	100	135	180	240	325								
11	20	35	55	75	100	125	160	195	245	315						
13	15	30	45	60	75	95	120	145	170	205	250	310				
16	5	15	25	40	50	60	80	100	120	140	160	190	220	270	310	
18	5	15	25	30	40	50	70	80	100	110	130	150	170	230	270	300
22	---	10	15	25	30	40	50	60	70	80	90	110	140	160	200	240
27	---	10	15	20	25	30	40	50	55	60	70	80	100	120	140	200
31	---	5	10	15	20	30	35	40	45	50	60	70	80	100	130	170
36	---	5	10	15	20	25	30	35	40	---	50	60	70	90	110	150
40	---	5	10	12	15	20	25	30	--	40	---	50	60	80	90	130
45	---	5	7	10	15	20	22	25	30	---	40	50	---	60	80	120
49	---	---	5	10	13	15	20	25	---	30	---	40	50	60	70	100

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INSTRUCTIONS FOR USE OF TABLE 3

The tabulated compressed air exposure times are in minutes. The times at the various pressures in each vertical column are the maximum exposures during which a compressed air worker will remain within the group listed at the head of the column.

To find the repetitive group designation enter the table on the exact or next greater working pressure than that to which exposed and select the listed exposure time exact or next greater than the actual exposure time. The repetitive group designation is indicated by the letter at the head of the vertical column where the selected exposure time is listed.

For example: An exposure in compressed air was for 45 minutes at 26 psig. To determine the repetitive group enter the table at 27 psig (the next higher pressure, as 26 psig is not listed) and move along horizontally until 50 minutes (the next greater tabulated exposure time, as 45 minutes is not listed), then move vertically to the top of the column where "H" is shown as the repetitive group.

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TABLE 4

REPETITIVE GROUP AT END OF OPEN AIR INTERVAL (Hours: Minutes)																
	Z	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A
Z	0:10 0:20 0:30															
O		0:10 0:23														
N			0:10 0:24													
M				0:10 0:25												
L					0:10 0:26											
K						0:10 0:28										
J							0:10 0:31									
I								0:10 0:33								
H									0:10 0:36							
G										0:10 0:40						
F											0:10 0:45					
E												0:10 0:54				
D													0:10 1:09			
C														0:10 1:39		
B															0:10 2:10	
A																0:10 12:00*

**INSTRUCTIONS
FOR USE OF TABLE 4.**

Open air interval time in the table is in hours and minutes (2:20 means 2 hours and 20 minutes). The open air interval must be at least 10 minutes. Find the repetitive group designation from Table 3 on the diagonal slope. Enter the table horizontally to select the listed open air interval time that is exactly or NEXT GREATER than the actual open air interval time. The repetitive group designation for the end of the open air interval is at the head of the vertical column where the selected open air interval time is listed. For example: A previous compressed air exposure was for 4.5 minutes at 30 psig. The compressed air worker decompresses according to Table 2 and remains in open air for 1 hour and 30 minutes and wishes to find the new repetitive group designation. From Table 3 the repetitive group at the start of the open air interval is "I". Now enter Table 4 at "I" on the diagonal slope and move horizontally to the column having 2:02 listed, which is the next greater time, since 1:30 is not tabulated. A sufficient amount of Inert gas has now been lost to place the compressed air worker in group "F."

* NOTE: Compressed air exposures following open air intervals of more than 12 hours are not considered multiple exposures. ACTUAL compressed air exposure time will be used for the determination of decompression time for open air intervals greater than 12 hours.

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TABLE 5

Repet. Group	Repetitive Exposure Pressure (psig)							
	18	22	27	31	36	40	45	49
A	7	6	5	4	4	3	3	3
B	17	13	11	9	8	7	7	6
C	25	21	17	15	13	11	10	10
D	37	29	24	20	18	16	14	13
E	49	38	30	26	23	20	18	16
F	61	47	36	31	28	24	22	20
G	73	56	44	37	32	29	26	24
H	87	66	52	43	38	33	30	27
I	101	76	61	50	43	38	34	31
J	116	87	70	57	48	43	38	34
K	138	99	79	64	54	47	43	38
L	161	111	88	72	61	53	48	42
M	187	124	97	80	68	58	52	47
N	213	142	107	87	73	64	57	51
O	241	160	117	96	80	70	62	55
Z	257	169	122	100	84	73	64	57

INSTRUCTIONS FOR USE OF TABLE 5

The compressed air exposure times listed in this table are called "residual nitrogen times" and are the times a compressed air worker is to consider already spent in compressed air when starting a repetitive exposure to a specific pressure. They are in minutes.

Enter the table horizontally with the repetitive group designation from the Open Air Interval Credit Table (table 4). The time in each vertical column is the number of minutes that would be required (at the pressure listed at the head of the column) to saturate to the particular group.

For example: The final group designation from the Open Air Interval Credit Table (table 4) on the basis of a previous exposure and open air interval is "H." It is planned to re-enter compressed air at a pressure of 42 psig. What time must be added to the actual time spent in compressed air. Enter table 5 on row H. Since 42 psig is greater than 40 psig but less than 45 psig, use the longer time of 33 minutes.

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This means that the compressed air worker enters the compressed air environment as though the worker ~~had already been at 42 psig for 33 minutes.~~

The exposure time listed in table 5 is added to the actual time spent in compressed air. Decompression is carried out based on the sum of the actual exposure time and the time from table 5 for the pressure encountered.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

Summary and Responses to Oral and Written Comments

SUMMARY AND RESPONSES TO WRITTEN AND ORAL COMMENTS

I. Written Comments.

Ken Nishiyama Atha, Regional Administrator, Federal OSHA, by letter dated July 14, 2009.

Comment: Mr. Atha states that the proposed allowance of “employee exposure to pressures greater than 50 pounds per square inch (psig) except when approved by the Division” in Sections 6080(b), 6080(b) NOTE, and 6085 EXCEPTION No. 2 are inconsistent with the 50 psig limit and 29CFR 1926.308’s limit of 50 psig; except in emergencies. Any requests for variation from the approved standard should be addressed by a variance process consistent with the State’s approved variance process.

Response: The Board concurs with Mr. Atha and has modified Sections 6080(b), 6080(b) NOTE, and 6085 EXCEPTION No. 2 to be consistent with federal requirements.

II. Oral Comments Received at the Public Hearing on July 16, 2009.

Mr. Bill Jackson, Board Member.

Comment: Mr. Jackson was concerned that the proposed exceptions to Sections 6080(b) and 6085 vested the Division with the authority to grant a variance from the provisions, which only the Board has the statutory authority to grant.

Response: See the response to Mr. Atha.

Dr. Jonathan Frisch, Board Member.

Comment No. 1: Dr. Frisch expressed concern that the proposed exceptions to Sections 6080(b) and 6085 vested the Division with the authority to grant a variance from the provisions, which only the Board has the statutory authority to grant.

Response: See the response to Mr. Ken Atha.

Comment No. 2: Dr. Frisch expressed concern that Section 6120 is unclear as to whether the supervising physician is required to be on-site or simply retained.

Response: Section 6120(a)(1) requires that the physician shall be available at all times while work is in progress in order to provide medical supervision of employees employed in compressed air work. It further requires that the physician shall meet the physical qualifications of a compressed air worker and be willing to enter a pressurized environment. Sections 6120(b)(13) and (14) require that, when a medical chamber is required by Section 6120(b), it shall be located adjacent to an emergency medical facility and be in constant charge of an attendant under the direct control of the supervising

physician. The emergency medical facility is generally an off-site hospital with a hyperbaric chamber and emergency room. Section 6090, Air Locks, requires that the lock attendant for the air lock that is located at the worksite be under the direct supervision of the physician required by Section 6120. That section further requires that a pressure graph of each shift's decompression shall be submitted to the supervising physician after each shift. Thus, the supervising physician is responsible for supervising and communicating with staff both at the worksite and away from the worksite, as required. Article 154 does not specify that the supervising physician shall be located on-site because this may not be necessary under some conditions, such as routine work at low pressures.

Comment No. 3:

Dr. Frisch noted that Section 6120 provides that a physician shall determine that an employee is medically qualified to work in compressed air before such work is performed. Dr. Frisch was concerned that this medical determination should be consistent with the medical determination that an employee is medically fit to wear a respirator, as provided by Section 5144, Respiratory Protective Equipment.

Response:

Section 6120(a)(2) states that no employee shall be permitted to enter a compressed air environment until qualified by a physician in accordance with Section 6053. Section 6053 contains the following subsections: general, frequency of medical exams, information provided by examining physician, content of medical examinations, and physician's written report. The content of these subsections is consistent with the requirements of Section 5144(e), which pertains to medical evaluation procedures for respirator use.